



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,066	10/20/2003	Andrew Harvey Barr	100202103-1	6663
22879	7590	08/11/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			JONES, STEPHEN E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,066

Applicant(s)

BARR, ANDREW HARVEY

Examiner

Stephen E. Jones

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/26/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14-23, 25-28 and 30-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-23, 25-28 and 30-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5, 17-23, 26-28, and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure in the original specification, drawings, or claims of a configuration having three conductive regions that are electrically coupled by a plurality of unequally spaced bridging conductors. The specification merely teaches that unequally spaced bridging conductors may be used in conjunction with Fig. 2A which only has two conductive regions coupled (see specification page 9 (1st paragraph) which only describes Fig. 2A that has only two conductive regions coupled by bridging conductors, the description of Fig. 3 that details having three conductive regions has no mention of unequal bridging conductors).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2817

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-6, 10-11, 14-16, 30, and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiggenghorn (of record) in view of Trinh (of record).

Wiggenghorn (Figs. 2-3) teaches a stripline including; a dielectric board (15) (i.e. a circuit board) having a signal conductor (13) (i.e. a signal trace) inside (Claim 6, 14-16); a part of the stripline is a conductive plane (11) that has a continuous channel opening (17) and the size and position affect the impedance in the same manner as the present invention (e.g. see Col. 2, lines 55-60) (and especially since it the same structure as the presently claimed structure); the slot and signal conductor are centered to each other (e.g. see Fig. 2) (Claim 3, 11); and the channel opening can be considered over or under the signal conductor based on one's perspective/orientation and is parallel to the conductor (Claims 4-5, 10, 32).

However, Wiggenghorn does not explicitly teach a plurality of unequal spaced bridging conductors couples the two portions of the outer conductive plane across the slot that have a width dimensioned to provide a negligible impedance discontinuity to a signal flowing generally parallel to the opening (Claim 1, 30) or only one bridging conductor (Claim 33).

Trinh provides the general teaching of connecting portions of a reference plane to each other with a wire across a gap including that the bridging can be one or a plurality of bridges (e.g. see Col. 8, lines 49-53). The wires are shown in Fig. 2 being unequally spaced in relation to the length of the signal line in that the wire bridges are shifted toward one end of the signal line. Also, inherently the width of the bridges are a

size that presents negligible discontinuity to a signal flowing for the device to function to transmit signals in an acceptable manner.

It would have been considered obvious to one of ordinary skill in the art to have connected the Wighorn two external conductor portions which are separated by the slot with a single wire or a plurality of shifted wires (i.e. unequally spaced in relation to the length of the signal conductor) such as suggested by Trinh, because it would have provided the advantageous benefit of a common reference potential and uniform frequency ground/reference potential such as suggested by Trinh (e.g. see Col. 8, lines 50-52).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wighorn and Trinh (both of record) as applied to claim 1 above, and further in view of Wright et al. (of record).

The combination of Wighorn and Trinh teaches a stripline as described above. However, the combination does not explicitly teach that the width of the opening is greater than the width of the signal line.

Wright provides the general teaching that striplines having slots in the outer reference conductor arranged as a chosen size provides controlling the impedance (e.g. see Col. 6, lines 34-44) and including that the slots can be wider than the signal conductor (e.g. see Figs. 1, 3, 4, and 5).

It would have been considered obvious to one of ordinary skill in the art to have made the slot wider than the signal line in the Wighorn/Trinh structure, because it would have been considered a mere optimization of the impedance characteristics of

Art Unit: 2817

the device based on the pre-selected/desired impedance control characteristics (such as suggested by Wright).

6. Claims 7-9 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiggenhorn and Trinh (both of record) as applied to claims 1 and 6 above, and further in view of Applicant's admitted prior art Fig. 1.

Wiggenhorn teaches a stripline as described above (including subject matter of Claims 8-9). However, Wiggenhorn does not explicitly teach that the device is used for a high frequency signal (Claims 7, 25).

The applicant's admitted prior art teaches that stripline/microstrip is used for high frequency transmission lines (as is well-known in the art).

It would have been considered obvious to one of ordinary skill to have used the Wiggenhorn/Trinh signal device in a high frequency setting, because it would have been a well-known application for the stripline device such as suggested by applicant's admitted prior art.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2817


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 571-272-1762. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEJ


STEPHEN E. JONES
PRIMARY EXAMINER